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ON THE EVOLUTION OF THE ART OF WORKING IN STONE.

By J. D. McGuire.

A REPLY TO MR. CHARLES H. READ.

There appeared in the American Naturalist for December, 1894, a communication by Mr. Read, one of the keepers of the British Museum, in reply to my paper on working in stone. Mr. Read having "given attention to the problem itself" thinks it "necessary to point out the danger that lies in the use of improper or irrelevant evidence;" he thinks the paper "so persistent in its pursuit of will-o'the-wisps that a better text could scarcely be found."

As Mr. Read represents the typical European believer in a palæolithic period, as distinguished from the neolithic, and as the writer calls in question the correctness of this distinction, it may be well that the public shall have an opportunity to decide who is chasing phantoms.

Mr. Read himself calls the question a "puzzle," the writer considers it a plain subject having little difficulty of solution. The original paper discussed the matter chiefly from a technical standpoint and showed, that among European writers on the subject there was absolute contradiction, and the greatest uncertainty.

There is nothing in the writer's paper calculated to mislead any one, for where experiment showed a condition, it was stated; and where an author was quoted, his name was given.

A great many American archæologists deny that the question is a "puzzle" as alleged by Mr. Read, although they confine their expressions to American conditions. The writer has not hesitated after a most thorough investigation to say that European authors *do not* agree even among themselves on the subject.

In the original paper it was stated "that a person capable of chipping out a palæolith after at most, a year or two spent in such manipulation, would have acquired the skill requisite to batter an implement into shape, and subsequently, if necessary, to grind a blade to it." The expression was thought to be considerate of the feelings of those who advance the untenable theory that man lived through centuries upon centuries of time, chipping stones, and never battering them into shape, nor even learning the process by which it was done; when as a fact, the art of chipping, if attempted upon a granular, igneous or metamorphic stone, of which implements are commonly made, would by that very act become a *battering process;* for such stones do not chip when struck an ordinary blow.

This is not a "theory" nor is it "based upon the writers own experience as an amateur maker of stone implements." Mr. Read has not been particular in the selection of the terms used, so it may be appropriate to say here that the writer has made few stone implements, and those few are exhibited in cases in the U. S. National Museum along with the tools with which they were made, and all are numbered and labeled. In doing the work, much material was necessarily destroyed, but the results appear fully to justify the expenditure, and are considered as valuable by those who have given them careful scrutiny.

Mr. Read is unfortunate in asking if the writer has ever seen a specimen of Kafir or Polynesian carpentry, and says "both cut everything from the solid," and because the British Museum possesses specimens of chairs, with legs and backs similar to European furniture, but cut from solid blocks, asks "Are we to think that they began with joining, *without doubt the easier method*, and finally came to the more difficult, the cutting from the solid?" "Surely not." Mr. Read says "the natural explanation is the best, simply that the easier method did not occur to them."

Let us answer this fully. The writer has seen Polynesian and African carpentry, in both of which the U. S. National Museum is rich, but these people do not differ in that respect from most, if not all other savage races of the world in cutting almost everything from the solid. Mr. Read's assertion that joiner work is simpler than working from the solid, will not be accepted on this side of the Atlantic, and any farmer's boy would laugh at such a suggestion even in England if he believed it to be seriously made. It is difficult to imagine how Mr. Read can suppose a chair with back and legs could be made out of wood by joining more easily than from the solid, if he thinks for one moment of the boring and mortising necessary in joiner work. Not only the operation but also the tools used in joiner work are more complicated than in carving from the solid.

It is a pleasure to hear Mr. Read express his preference to speak of palæolithic man in Europe, for in America the friends of palæolithic man have with few exceptions deserted the proposition as an unsupportable theory.

Mr. Read asserts that the writer's " views " are at a variance with that of others, and says: " Palæolithic implements are made chiefly of flint and quartz ; " this is one of the great troubles, for if an igneous, granular or metamorphic stone is found ground into an implement, European archæologists insist that the article is neolithic, apparently not appreciating that the stones enumerated cannot be chipped. Flint implements require chipping; cliorite, on the other hand, requires battering.

The writer advisedly speaks of " stone " for the subject of the paper is stone and not *flint* as Mr. Read would have it. The writer's assertion is plain and is repeated, the process of *battering* a material is simpler than the process of *chipping* a material. The writer regrets that "it seems inconceivable that such a statement could be calmly made, seeing how entirely contrary it is not only to the experience of all who have tried the experiment, with the single exception of Mr. McGuire, but also in direct opposition to all the evidence on the subject." Mr. Read is here again decidedly confused in his mechanical methods and information, for until the writer demonstrated the process of battering, and showed it to be common to the whole world, it was declared to be a problem in archæology that was unsolved and not demonstrable, therefore, except the writer's paper on the subject, there does not appear to be any evidence one way or the other.

Again, Mr. Read asks "Can Mr. McGuire point out a single instance of a polished implement being found on an admitted palæolithic site?" If a palaeolithic site is one on which no battered or polished stones are found, No! In compliance, however, the writer will cite the upper cave of Wierszchow in which a polished celt of diorite was found; in this cave were also *Ursus spelaeus*, *Hyaena spelaea*, etc., according to Dr. Ferd. Römer, nor is this the only cave by any means. For fear, however, lest the advocates of palæolithic man may say this is not an admitted site, we will refer to the bone caves of France, admittedly of the palæolithic period. In them carved antlers are *commonly* found, and ivory tusks worked into plates; to shape which required sawing and grinding, work *similar* to that on the typical neolithic implements. The caves of England have produced bone needles *ground* into shape. Many caves of the continent have produced whistles and various other objects of stone, shell, bone and ivory having holes *bored* through them. These articles are all found in Quaternary strata, and are referred to by most all archæologists as palæoithic. To work such material (it being harder than much of that of the neolithic period, requiring similar treatment to that requisite to produce the neolith) certainly required a similar mechanical ability in the people of the earlier when compared with that possessed by those of the later period, yet if this be admitted, the palæolithic period thereby collapses.

It does not savor of fairness for Mr. Read to say the writer "is fighting air, to bring a long array of his own experiments to prove that palæolithic man ought to have found out what he considers the easiest way of making his tools." If the articles quoted above were found where their Europeon authors say they were, of which too there appears no doubt, is there not something more substantial than "air" in the argument?

The statement that "the fact that palæolithic man *overlooked* the polishing of his implements is a mere accident, a subsidiary and incidental peculiarity, and possesses no right to the importance it has obtained" is choice verbiage, but is not argument calculated to support the theory of the correctness of palæolithic man or of such a period.

American archæologists are unwilling to rely upon the soundness of arguments that appear to be intended to charge, that those who do not blindly follow European dicta, are incapable of expressing opinions of value. Sir John Lubbock's definition of "palæolithic" and "neolithic" broadly given, is a distinction of the intelligence of the peoples of the two periods as evidenced by the articles of their handiwork, and yet holds good.

The reputation gained by that patient French archæologist, Boucher-de-Perthes in his investigations in the valley of the Somme, was well deserved, but the same cannot be said of those others who are endeavoring to discover new eras of man's existence, extending over eons of time, and through gradations of chipping their tools in periods christened "pre-palæolithic," "eolithic," "mesolithic" and the various cave periods, the names alone of which, are sufficient to convince thoughtful persons that they are on doubtful ground.

The history of these newly christened eras has been that, by the time their sponsors become familiar with the names, they abandon them, until now the structure has crumbled so absolutely that a geological stratum alone decides the question, and if specimens are found in it, no matter how finished they be, whether chipped or polished, they will be accepted. The libraries of America are well stocked in archæological literature. American students have done some good work; they are willing to welcome intelligent inquirers to the fold, as there is abundance of room. Yet Americans are fast recognizing a rule, that where assertions are made archæologically, they demand a reference to the locality or the author or the specimen, and they are unwilling to accept a guess. Palæolithic man has been a fad for years, a myth and phantom, who whether he will or no, must give way to man a reasoning being, an intelligent and implement using creature.